UNITED STATES SUPREME COURT.

OCTOBER TERM, 1880.

THE RICHMOND MINING COMPANY OF NEVADA, *Plaintiff in Error.* *vs.* THE EUREKA CONSOLIDATED MINING COMPANY, *Defendant in Error.*	No 118. Writ of Error.
THE RICHMOND MINING COMPANY OF NEVADA, *Appellant,* *vs.* THE EUREKA CONSOLIDATED MINING COMPANY, *Appellee.*	Nos. 116 and 117. Appeals in Equity.

Abstract and Abridgment of the Oral Argument

—OF—

SAMUEL M. WILSON,
Of Counsel for the Richmond Mining Company.

PHONOGRAPHICALLY REPORTED.

R. O. Polkinhorn, Printer, Washington, D. C.

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Abstract and abridgement of the oral argument of Samuel M. Wilson, of counsel for the Richmond Mining Company, phonographically reported.

Mr. Wilson gave the history of the proceedings taken in the above-entitled cases from their commencement, and explained the situation of the mining-ground in controversy; pointing out the several patented locations of the Eureka

Mining Company and the Richmond Mining Company as the same appear upon a large map exhibited to the Court, a copy of which, on a smaller scale, is annexed to the record and made part of the findings in the ejectment suit.

The findings of the Court below being special, and the facts being given quite in detail, the question to be determined in the ejectment suit is, whether the facts found by the Court below are sufficient to support the judgment?

Both parties claim under patents from the United States Government. The ground in controversy is no part of any surface-claim, and does not lie under the surface of any of the patented claims of the Eureka Company, the plaintiff below. The Eureka Company has never been in possession of the property in dispute, nor does it claim that the property in dispute is on the dip of any fissure vein filled with ore, the top or apex of which lies in any of the surface-ground of the Eureka Company. The claim of the last-named Company to the property in dispute is based upon the following propositions:

1st. That the mines in controversy are situated in a zone of limestone.

2d. That the zone of limestone has a foot-wall of quartzite upon which it rests, and an overlying or hanging rock of shale or clay.

3d. That the zone of limestone is in itself one gigantic lode, absorbing all lesser deposits of ore.

4th. That this zone of limestone has its top or apex in the surface-ground of the Eureka Mining Company, and therefore has a right, under its patents, to follow the zone of limestone on its dip to any depth between planes drawn down through the surface end-lines of the Champion claim and through planes drawn down through the extreme points of the surface locations of the other patented claims

of the Eureka Company, and that between such planes the mining property in controversy lies, and therefore the Eureka Company owns the property in dispute. The other propositions of the Eureka Company will be noticed hereafter.

The great question, therefore, is this: Is the zone of limestone described in the fourth finding of the Court below a "vein or lode" within the sense and meaning of those terms, as used in the acts of Congress relating to mining property?

As a preliminary, we must ascertain what is a vein or lode, in the sense in which those terms are used in the acts of Congress.

We first resort to the books of distinguished writers on the subject of mines and ore-deposits.

Prof. Whitney, in his work entitled "Metallic Wealth of the United States," describes "veins" as follows: "By vein, as a geological and mining term in general, is understood an aggregation of mineral matter of indefinite length and breadth, and comparatively small thickness, differing in character from, and posterior in formation to, the rocks which inclose it."

Von Cotta, in his "Treatise on Ore Deposits," (American Translation by Frederick Prime, Jr., New York, 1870, pp. 26, 64, and 526), says: "Veins are aggregations of mineral matter in fissures of rock. Lodes are, therefore, aggregations of mineral matter containing ore in fissures" (p. 26). "Since, according to our definition, all true lodes are aggregates of mineral matter in fissures, fissures must, necessarily, have first been formed and then filled" (p. 64). "From this, however, we merely ascertain that all lodes are more recent than their wall-rock" (p. 526).

A peculiarity of lodes is, that they almost always appear

in groups, and lie in all directions to each other, and often intersect or join, and sometimes split up into branches.

Von Cotta says (p. 28): "In every district where metalliferous veins occur, there are generally quite a number of them together, which often seem to form groups in which they are parallel with one another [giving examples.] The veins in the Hartz form a very characteristic example of a group."

Again, the same writer (at page 33) says:

"As a rule, lodes occur associated together; so that when one lode has been discovered, there is a great probability that others of a similar kind will be found in the neighborhood. They are generally arranged in groups tolerably parallel with each other and form what the Germans call a *gangzug*, of which several may traverse the same district in different directions—as, for example, at Freiberg."

Again (at page 34) he says:

"Fissures of lodes are the consequences of plutonic or volcanic concussions; their filling the result of more or less deep underground; consequently in the sense plutonic action."

The principal strata of rock of the earth are of sedimentary origin, and when upheaved by some great dynamic force or plutonic action, they become, as shown by the witness above, broken up into groups of fissures and other cavities, and it is agreed here, as a demonstrative geological fact, that subsequently these became filled with ore which came up in vapor or solution from some deep source below. The fissures, when filled with ores, become lodes.

Keeping these definitions, conditions, and characteristics in view, we find them all contained in the veins and lodes referred to in the Acts of Congress. These Acts refer to, and contemplate the close proximity of veins or lodes, and provide for their intersection and junction, and also con-

template that there may be isolated and segregated ore-bodies that are not veins or lodes. They contemplate that several distinct veins or lodes may have their tops or apices within one small surface location, and that these different lodes may dip almost parallel to each other, and that several lodes may underlie the same surface. They also contemplate that ore deposits which are not veins or lodes, may lie close to veins or lodes and yet be distinct; and that one person may own such an ore-body under one surface location, whilst another person may own the lodes or veins having their tops or apices in the same small surface location: and that the one may be located by the acre and the other by linear feet on the course or strike of the lode. Is it not manifest that the Act of Congress use the words vein or lode according to their original and scientific meaning?

Looking still more closely into the Acts of Congress, we find that the mineral lands of the United States were first opened up to exploration and occupation by the Act of July 26th, 1866, (14 U. S. Stat. at Large, page 251). There the local customs and regulations of the mines of the district were given the force of law, and the implied license of the Government, refered to by the Courts, changed into an express permission and legal right.

But all mining claims were not made subject by this act to entry and purchase. This right was limited entirely to "a vein or lode," together with a reasonable quantity of surface for the convenient working of the same, as fixed by local rules.

The language of the whole act, as gathered from its various sections demonstrate that the right of entry and purchase was limited to veins or lodes in their restricted sense as used by writers on mining, and in mining literature. The right is to "receive a patent therefor, granting such mine, together with the right to follow such vein or

lode with its dips, angles, and variations to any depth," &c. Only veins or lodes have "dips, angles, and variations." These terms cannot apply to placers or isolated ore-bodies. "But said plat survey or description shall in no case cover more than one one vein or lode, and no patent shall issue for more than one vein or lode, which shall be expressed in the patent." This is purely and solely applicable to veins and lodes such as we are contending for. The language of section 4 in the first proviso limits the extent to "two hundred feet in length along the vein for each locator, with an additional claim for discovery to the discoverer of the lode, with the right to follow such vein to any depth, with its dips, variations, and angles, together with a reasonable quantity of surface for the convenient working of the same, as fixed by local rule." This language applies purely and solely to such veins as we have refered to and as writers on mining matters use the term.

Gold, silver, copper, and cinnabar all occur in veins or lodes. The ores of quicksilver are found in lodes or veins, sometimes as cinnabar, and sometimes as native amalgam.

Von Cotta's Treatise on Ore Deposits, pp. 200 to 202, Sec. 226, and pp. 399 to 401.

The Court below fell into the grave error of supposing that cinnabar was never found in veins or lodes, and the conclusion to which the Court came was, to a considerable extent, based on that error of fact.

That Congress used the terms vein and lode in the same sense that Professor Whitney and Von Cotta and other distinguished writers used them, is rendered clearer by examining the Act of July 7, 1870, (16 U. Stat. at Large, 217). That Act was amendatory of the Act of 1866, and covered the very cases omitted from the last-named Act. It provides "that claims usually called placers, *including all*

forms of deposit except veins of quartz or other rock in place, shall be subject to entry and patent under this act under like circumstances and conditions, and upon similar proceedings as are provided for vein or lode claims."

Here are two distinct classes: *First*, vein or lode claims, and *second*, all *forms* of deposit not veins or lodes.

This classification is based, it will be seen, entirely *on form*, for the act speaks of "*forms* of deposit." It refers to veins or lodes as one *form of deposit*, and contains specific provisions relating to that form; and then it provides for other forms of deposit, and prescribes regulations especially applicable to them. We arrive at the latter by first ascertaining the form of veins or lodes. The form of the vein or lode is the standard. In establishing veins or lodes as the standard—as the form to which specific provisions were first applied—and then classifying all other forms of deposit together and applying to them other general principles, Congress must be supposed to have referred to the standard as something then well known and understood. It must have used these terms in their fixed and ordinary sense. They virtually say we divide all ore-bodies into two classes—first, veins or lodes, that is to say, "aggregations of mineral matter containing ore in fissures;" and, secondly all other forms of deposit. The one must be located and patented by linear feet along the length of the lode, the other by the acre. The patentee of the first may follow his lode on the dip, though he pass out of the side lines of his surface location; the patentee of the other forms of deposit is limited to his own surface, but may mine down perpendicularly to the center of the earth.

The act of 1872, May 10th, (17 U. S. Stat. at Large, p. 91,) maintained the same classification and distinguished between lodes and other forms of deposit. It modified, in some of the modes of proceeding, the act of 1866, but retained expressly in force the act of 1870. Whilst the act of

1866 limited a patentee to one lode, the act of 1872 gave all lodes the tops or apices of which lie within the surface location.

The act of 1872 is based, too, in some parts (sec. 11) upon the fact there may be a lode inside of a surface tract which contains placers or other forms of deposit, and that a patent for the placer may or may not include the lode. One patentee may have the vein or lode, and another patentee the other form of deposit contained under the one common surface claim. This makes the classification perfectly clear.

Turning to the fourth finding, and we have a zone of limestone containing many lodes as well as other forms of deposit, thus meeting the very condition of things written of by the men of science referred to, and the very condition of things contemplated in the acts of Congress. We have an original sedimentary rock subjected to some dynamic force of nature, "fissured in all directions," and caverns and cavities opened up in it ready for the reception of ores. "Throughout this altered zone of limestone mineral is formed *in numerous fissures*, caverns, and cavities, and in the loose material of the rock *in various forms*—appearing sometimes in a series or succession of ore-bodies more or less closely connected; sometimes in apparently isolated chambers, and in others in small bodies, vuggs, and scattered grains."

Is not this a description of groups of lodes as well as other forms of ore deposits? Do we not find just what the Acts of Congress contemplate? May not several of these fissures, filled with ore, have their tops or apices in the one small surface location? Do they not have course, strike, and dip? Why should there be a struggle here to find that this zone is something else than a zone containing a series or group of lodes and other forms of deposit? The Court below found that the zone was *mineralized!* True; but is not a zone containing numerous lodes and ore-bodies

always mineralized? The more lodes it contains, the more mineralized it becomes; but the lodes are still lodes, however numerous they may be.

The Court finds that this zone of limestone is about *eight hundred feet thick* in the Richmond Mines. This is nearly three times as thick as this Capital is high measuring on the eastern front to the topmost feather in the plume of the statue of Freedom, that surmounts the Dome. It is thicker than the whole Capitol is long, including wings and verandas. But Mr. Whitney in his "Metalic Wealth of the United States" says that though lodes are of indefinite length and breadth, they are of "comparatively small thickness;" and Von Cotta says: "as a rule most paying lode, average between six inches and five feet, (p. 26), and that whilst some exceed a fathom, a majority are under it." (p. 35.)

The Act of Congress in limiting the surface to three hundred feet on each side of the vein at the surface and allowing miners to reduce it to twenty-five feet on each side, (17 U. S. Stat. at Large, p. 91, Sec. 2.) and in also limiting the claimant to such lodes as have their tops or apices inside of that surface, clearly contemplated such lodes as Whitney and Von Cotta were treating of, and not great zones of rock, eight hundred feet thick. What would become of so much of the top or apex as lies outside of the limited surface? Two or more lodes, properly speaking, could very well have these tops or apices inside of such surface; but how could two or more zones lie inside such a narrow limit? How could such a zone be located as a lode and an isolated ore-body be also located in the same surface?

Is it not plain that the acts of Congress will bear no such construction as the court below placed upon them, and that such a zone of limestone as is described in the fourth find-

ing is not a lode, but is rather a group of lodes and deposits of ore in other forms?

The court below placed great stress upon the fact that the ore was found in the limestone zone alone and did not penetrate the quartzite or shale: and that the miner would be led to the ore because he would find it in the limestone alone. (See page 16 Transc't.)

We find, however, that it is common learning among geologists" and an established fact that lodes are productive or non-productive according to the country rock through which they pass. Von Cotta, in his Treatise on Ore-deposits (pp. 46 to 51) gives numerous instances in different countries and mining localities of this peculiarity. A vein passing through several strata of rock of different formation, is found in one zone or formation to be rich and productive in ore, and in another stratum or formation utterly destitute of value; sometimes the same vein has the ore of one metal in one zone and the ore of a different metal in another zone. It is to be expected that a particular kind of ore is confined to a particular zone of rock. Von Cotta calls these zones ore carriers.

[Mr. Wilson here read from various pages (46 to 51) of Von Cotta on Ore Deposits.]

It will be seen that the scientists of Freiberg have been examining this subject with a view to detect the law governing such deposits.

The court below, therefore, fell into another grave error in assuming that a zone should be considered a lode, because the ores did not extend into the other strata of rock of different formation.

The struggle of the Court below was to escape from the meaning of the words vein or lode as used in the literature of mining, and it became a necessity to give some other definition to those terms—something that would embrace a zone or stratum of rock.

In defining a lode the Court says (p. 16): "It includes, to use the language cited by counsel, all deposits of mineral matter found through a mineralized zone or belt, coming from the same source, impressed with the same forms, and appearing to have been created by the same processes" This definition not only includes "placers," in the original meaning of that term as used by the Spaniards, but also the great gravel deposits which are the beds of ancient rivers; for these are found in the same mineralized zone or belt, came from the same source, have the same forms, and appear to have been created by the same processes. The same definition covers all isolated and segregated ore-bodies lying in one stratum of rock, though there may be hundreds of feet of barren rock to one containing ores. It covers most clearly all groups of lodes as defined by Von Cotta; and when such groups are found, they all become one gigantic lode into which the lesser are absorbed, for such groups of lodes are all in one "zone or belt, coming from the same source, impressed with the same forms, and appearing to have been created by the same processes." Can such a definition be accepted in view of the language and provisions in the Acts of Congress as to the different lodes supposed to be found in close proximity and to underlie each other under one common surface, and to intersect and join? Can the Acts of Congress mean that a vein or lode ceases to be such when it is one of a group, and that by reason of its associates, all become a lode?

[Mr. Wilson elaborated points III, IV, V, VI, and VII; also X and XI, contained in the brief on file.]

But it is claimed that even if the Eureka Mining Company's patents do not give it a title and right to the mining property in dispute, that Company is entitled to the property by virtue of the agreements and deeds of compromise

referred to in the findings, and marked respectively X (p. 70), Y (p. 74), Z (p. 77).

Those documents do not relate to, or embrace the, mining property in dispute. They must be read in the light of surrounding circumstances.

On the 29th May, 1869, the predecessors of the Eureka Co. located the Lookout Claim, not as a lode but as a square location (p. 63), under the mining laws of the district (p. 34). On the 20th Sept., 1869, the Richmond claim was located both as a square and as a lode location (p. 109). On the 23d May, 1870, the Champion claim was located. Prior to the 26th April, 1871, a conflict was found to exist between the Champion and the Richmond locations, and the Eureka Company, on that day, virtually abandoned its claim to the ground then in dispute by executing the deed (Exhibit W, p. 69) of release and quit-claim of that date, for the nominal consideration of one dollar. But each party was careful to limit itself to the special grounds described. The Richmond Company was not to receive, by that deed, any veins, lodes, or deposits not embraced within the triangular tract conveyed, and was not to claim any of the "*ground*" in the Nuget, Champion, Lookout, At Last, Margaret, or other mining claims (meaning the Savage, Buckeye, Mammoth, Sentinel, and Elliptical;) nor any of the "ore or metals therein contained."

Great care is taken to say nothing about "dips, spurs, or angles" outside of the lines of the surface locations. As to these, the parties did not see fit to contract, but each stood on its own rights. The triangular tract thus quit-claimed has two lines at right angles, and the third or hypothenuse is the line running from the point marked W to the corner of the Nuget.

Before the 16 June, 1873, a conflict again arose between the Eureka and the Richmond, as to the ores in the Look-

out. The Richmond claimed that it not only had a lode, but that its lode on the dip passed under the Lookout surface, and that it had a right to follow its lode on that dip. Thereupon a compromise was again made. A "*certain line*" was fixed upon. It *commenced* at the northeasterly corner of the Marget mining ground or claim, at the point marked X on the map, and ran thence in an opposite direction to the property in dispute, bounding the surface locations of the parties and taking three different courses. until it ended at a point marked R, being the southwestern line of the Nuget.

This was not an indefinite line, but a definite one, for its beginning was fixed, its courses given with mathematical certainty, and its end designated. In the language of the agreement it was "a certain line." The Eureka agreed to convey to the Richmond Company not only the Lookout ground, or claim, but also all mining ground or claim lying on the northwesterly side of that "certain line" above referred to; and the Richmond Company agreed to convey to the Eureka Company the mining ground on the southeasterly side of that "certain line." Can that line, with its fixed beginning and end be extended, and if so, upon what basis or principle? Is it not merely one side of the tracts conveyed, and must not the end lines be drawn at right angles to that certain line at its termini?

The line is as certain as if it commenced at one corner of two streets in a city and ended at another corner of two other streets. How could it be extended beyond the points fixed by the parties for its beginning or end?

Not only was the line described but a map of the claims of the parties was annexed, and the line was marked on the map.

The agreement refers to it as "laid down on the said map hereto annexed." (p. 72 Transcript.) The mining claims are laid down and marked, and the site of the present con-

troversy is left a *terra incognita*. But great care is taken in the agreement not to convey or refer to any of the dips, angles, variations, or ore deposits outside of the surface locations. The Eureka (p. 71) agrees to convey to the Richmond all veins, lodes, ledges, deposits, dips, spurs or angles, *on*, *in* or *under the land contained*, not outside of the surface ground.

This is repeated again, in referring to he Lookout claim, and the ores, precious metals, veins, lodes, ledges, deposits, dips, spurs and angles *on*, *in*. or *under* the same; and again (at the top of p. 72) it says "ores, precious metals, veins, lodes, ledges, deposits, dips, spurs or angles now or heretofore found *in or under* the same."

Never once does the Eureka convey any right to follow any lode or vein outside of the surface land described.

The same caution is observed in the part relating to the transfer by the Richmond to the Eureka (p. 72). The agreement is to convey the land or mining-ground situate "on the southeasterly side of the line hereinbefore mentioned and laid down on said map hereto annexed, and in all ores, &c., &c., *on*, *in or under the said* land or mining-ground or any part thereof." Here, again, we see that there is no right to go outside of the boundaries on the dip of any lode or vein. And, as if "to make assurance doubly sure," the declared intention of the parties seems to put the matter on the basis of absolute certainty. It says: "It being the object and intention of the said parties hereto to confine the workings of the said party of the second part to the northeasterly side of the said line, *continued downward* to the center of the earth; which line is hereby agreed upon as the permanent boundary line between the parties." We have, then, the line of compromise with not only a beginning far to the southwest of the land in dispute, but running *thence* in nearly a southwesterly direction away from the land in dispute, and after making three courses, it terminates at a fixed point. It is as definite as a line of trees

or posts. Next we find that the line, instead of being confined to the surface, is to be sunk down to the center of the earth—not a word about sinking on the dip of a lode.

But this agreement did not transfer anything; it was a mere agreement to convey, and the deeds Y and Z are more restricted than the agreement, and being later, show more fully the meaning and last expression of the minds of the parties. The deeds omit all reference to any lodes or veins, and transfer merely the mining-ground described and the matters *therein*.

The ground now in controversy was not then in controversy, nor within the contemplation of the parties. Up to the point X, on the map, locations had been made, and it was in those claims that questions were arising. To that extent the parties agreed upon a compromise, leaving each as to other lands stand on its original rights. The line of compromise having three courses, cannot be extended beyond either terminus, for the parties have not determined in what direction it shall run beyond the termini. If, therefore, the court shall hold that the limestone zone is not a lode, and that no lode has been shown to be owned by the Eureka Company, the dip of which extends to the Potts Chamber, can it now claim a right to any portion of the Potts Chamber, because a boundary line was agreed upon between the parties at points where there was a real title and ownership? Is it to be supposed for a moment that in agreeing upon a boundary line between fixed monuments, upon either side of which the respective parties had claims, that a right was given to lands far remote, to which the Eureka Company shows no title or claim whatever under its locations or patents?

It is respectfully submitted that the compromise agreement and deeds do not affect, and were not intended to affect, the lands now in controversy, and that the judgment and decree should be reversed.

IN THE

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THE RICHMOND MINING CO. OF NEVADA,

vs.

THE EUREKA MINING COMPANY.

ARGUMENT OF THOMAS WREN

FOR THE RICHMOND COMPANY.

Washington, D. C., March 30th, 1881.

REPORTED BY JAMES L. ANDEM, STENOGRAPHER.

WASHINGTON, D. C.:
R. O. POLKINHORN, PRINTER,
1881.

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OF NEVADA

vs.

THE EUREKA MINING COMPANY.

Argument of Thomas Wren for the Richmond Mining Company.

WASHINGTON, D. C., *March 30, 1881.*

Mr. WREN addressed the Court as follows:

If the Court please: I understood the Court to announce at the commencement of the argument, that it would not look into the testimony in the equity cases at all, for any purpose, but that the findings in the law case would be alone considered. With that understanding, though I should like very much to discuss the testimony, I shall attempt to show from the findings that the case ought to be reversed.

The Court finds fourth finding on page 27 of the record:

"That the mining ground in controversy is situated in a hill known as Ruby Hill; * * * * that along and through this hill for a distance slightly exceeding a mile,

* * * is a zone of limestone. * * Underlying this zone on the southerly side is a well-defined * * * foot-wall of quartzite * * * * On the northerly side is an overhanging wall or belt of shale or clay, also well defined," etc.

I suppose that the Court will take notice of the universally-conceded fact amongst scientific men, that these zones are all of sedimentary origin; that they were originally laid down either under the bed of the ocean or some other large body of water, in horizontal strata.

It appears then, from the findings, that when this zone of limestone was originally formed it was not a lode or vein—certainly not a lode, because a lode must contain ore. While the term "vein" is applied to a large class of mineral deposits that contain no ore, the term "lode" is only applied to such mineral deposits as contain ore. And when I use the term "mineral" I use it in its widest sense. The whole of the rocks are mineral; the metals only appear in the form of ores.

Now, at this point of time, there were some things in common between this zone of limestone and veins or lodes. A vein or lode has boundaries. So had this zone an underlying boundary of quartzite and an overlying boundary of shale. But they resembled each other in scarcely any other particular. A lode must contain ore; the zone did not. A lode must have a "strike" and a "dip;" the zone had neither. Both have a well settled name. The zone of limestone belonged to a class of deposits known as stratified limestone. It was a series of strata of rock, and the name "vein" or "lode" could not in any sense be properly applied to it. Neither could the term wall of a lode, as used with reference to the walls, be properly applied to the underlying quartzite or overhanging shale.

Subsequently the court says in the findings:

"The zone of limestone found between these two limits—

the wall of quartzite on the one side, and the belt or wall of slate or clay on the other—has, at some period since its original deposit, been subjected to some dynamic force of nature by which it has been broken up, crushed, disintegrated, and fissured in all directions, so as to destroy, except in some few places of a few feet each, so far as explorations show, all traces of stratification, thus totally changing its original structure and character, and thereby specially fitting it for the reception of the mineral which in ages past was deposited there. This broken, crushed, fissued, disintegrated, and totally altered condition pervades, to a great extent, the whole body. * * * The broken, crushed, fissured, and generally altered condition of the limestone within the zone in question, gives it a specific, individual, distinctive character by which it can be identified and separated from all other limestone in the vicinity. In this zone of metamorphosed limestone, numerous caves or chambers are found, further distinguishing it from the neighboring rock."

The CHIEF JUSTICE. Does the finding show that the mineral cropped out upon the surface at any other point than these where it is marked red on the map, or upon that line; was there any cropping out of the vein?

Mr. WREN. No, sir; no croppings are shown by the findings at any other point.

The CHIEF JUSTICE. So that the entry of that outcropping at the Champion would, under the law, permit the owner to follow that vein wherever it went?

Mr. WREN. If it be a vein; it is not found to be a vein.

The CHIEF JUSTICE. But if it was found to be a vein, it would give them the right to follow it wherever it would go?

Mr. WREN. Yes, sir.

The CHIEF JUSTICE. But it is a vein at the point where it crops out?

Mr. WREN. I think so. It is not found to be a vein—but that is my opinion in reference to it.

The CHIEF JUSTICE. I infer that to be either an admitted fact, or a found fact, that at the place where it crops out it is an actually existing vein, and one that may be followed just as far as it goes as a vein?

Mr. WREN. Most certainly. The court has not found it is a vein, though. It has not found that it has any dip, nor in what direction it dips; it has not found its extent; it has not found whether it descends in the earth 100 feet or 500 feet. Now, I suppose we are confined to the findings in this case?

Mr. Justice BRADLEY. What is that dark colored portion of the map on the "Lookout" mining claim?

Mr. WREN. That represents ground that has caved in since the ore has been stoped out underneath it.

Mr. Justice BRADLEY. The ore was continuous through that place?

Mr. WREN. The ore was continuous.

Mr. Justice BRADLEY. And it was there?

Mr. WREN. Yes, sir. The ore was found at the Richmond at this point, [indicating on the map] and extended down to the Potts Chamber.

Mr. Justice BRADLEY. That white spot does not indicate any interruption?

Mr. WREN. So far as the findings are concerned, perhaps it does; but as a matter of fact, it does not. There is no interruption of ore there, as appears from the testimony. We are discussing these things simply upon the findings, and we are confined within very narrow limits.

Mr. Justice FIELD. I should like to have you explain to the judges a question which had a great deal of effect on me in determining what Congress meant by a "lode;" that it used the words "ledge" and "lode" in the same sense; and while some of the observations you make about a

"lode," separate and distinct from a "ledge" or "vein," would be such as might perhaps control; yet, I suppose that use was in the more popular sense than in the strict technical sense of geologists, from the fact that they use those three words synonymously.

Mr. WREN. Perhaps a satisfactory reply to that would be this—that these claims, the Lookout, the Richmond, and the Champion, were located under the law of 1866, and in that act the word "ledge" is not used at all. The word "vein," or "lode," are the only terms used. We acquired our rights, whatever they are, under that Act; and it seems to me, under those circumstances, that the term "ledge" ought not to cut any figure in this case. But the word ledge is only used in one section of the Act of 1872; and unless you hold that the terms vein, lode, and ledge mean precisely the same thing, the last Act does not provide for any mode of patenting a ledge at all. My idea about it is, that the term "ledge" was used by miners with no very definite idea of its meaning—but applied to the croppings of veins or lodes. It is a well-known fact that in the early days of gold mining in California, a vast number of the people of the Atlantic States entirely unacquainted with mining or miners' terms, emigrated to the Pacific Coast, and entered into the business of mining in California. In that State, the mineral in the mountains or gold regions—so far as it occurs at all in rock in place—occurs in veins and fissures in the rock, and the term, I suppose, was first applied to those veins or lodes, and in that way it has crept finally into the law, and tends, perhaps, to confuse it to some extent.

Mr. JUSTICE FIELD. I notice in the patent that was issued they use the word "ledge or lode."

Mr. WREN. Yes, they use the words vein, lode, or ledge, I think, and also the word deposit, in the patents. Vein,

lode, ledge, or deposit—all those terms are used in the patents.

Mr. JUSTICE BRADLEY. What do you understand by a ledge?

Mr. WREN. I understand it to be applied to veins or lodes; that is my understanding of it. That is my understanding of the way in which the term has been applied in the mining districts—and in no other way.

Mr. Justice BRADLEY. Webster's definition, which I suppose is made by Prof. Dana, or some of those eminent men in New Haven, who generally were employed to make these scientific definitions, says that it is a stratum; that a ledge is a stratum of rock, amongst other things. It is primarily a shelf, but they call it a stratum.

Mr. WREN. Webster goes still further than that and applies the term to irregular croppings of rock—prominent croppings of rock, as well as to a stratum. But I think I shall be able to show, presently, that it does not matter what the meaning of the term ledge is—that it does not matter whether the term ledge, lode, or vein has been broadened in any way, or not; that the only fact to be considered here, the only definition that will control in this case is the one that is applied to fissures filled with mineral matter containing ores.

Now, I apprehend that no one will say that a fissure filled with mineral matter containing ores, is not a vein or lode in the sense in which that term is used in the acts of Congress, and in the sense in which it is used and understood by miners and everybody else.

Mr. Justice BRADLEY. If it is filled with trap-rock, it is called a dike, is it not?

Mr. WREN. I say, if it is filled with mineral matter containing ore, it is a vein or lode.

Mr. Justice BRADLEY. But if it is filled with mere rock?

Mr. WREN. Then it is a vein and not a lode.

Mr. Justice BRADLEY. It may be a vein then?

Mr. WREN. It may be a vein then, but it is not a lode. The term lode is of Cornish origin, and is applied strictly to mineral veins, that is, veins containing the metals. The term mineral and metal are used as synonymous in the acts of Congress, and in general use.

Mr. Justice BRADLEY. You mean metallic veins?

Mr. WREN. Yes. In using the term mineral, I mean filled with some of the valuable metals.

Now, to anticipate a little—because from the questions that have been asked I am not able to present my argument in precisely the form I intended to—and I may as well now explain why I consider the terms, veins, or lodes, as the controling terms in this case. All veins or lodes, or nearly all, are found in zones of rock. Nearly all the veins or lodes in the world, and in the United States certainly, are found in zones of sedimentary rock.

Mr. Justice BRADLEY. And generally in the same zone, are they not?

Mr. WREN. Generally in the same zone. It is a matter of fact that has been demonstrated by scientific investigation, that the wall-rock of a lode—the rock in which a lode occurs—has a very important influence upon the productiveness or the unproductiveness of the lode. Where a lode is a true fissure-vein and cuts across the stratification, cutting, we will say, limestone and sandstone and shale, the fissure is very apt to be productive in the limestone, non-productive in the other rocks, or *vice versa*; and so with all other kinds of rock. Where a lode is found running through two different kinds of rock, it is generally productive in the one kind and poor in the other. As a matter of fact, in one of the districts or two of them that I have cited in my brief—Derbyshire and Cumberland—the lodes are found only productive in the limestone. When they

enter the toadstone, the fissures are entirely unproductive, and frequently the fissures are confined to the limestone and do not enter the toadstone at all.

But to return to what I intended to say about the controlling effect of the terms "lode" or "vein," in this case: I say that nearly all veins occur in zones of some particular rock—sometimes running across the stratification and sometimes with the stratification. If a zone contains lodes or veins, it becomes a mineralized zone in the very sense in which that term is used in the findings and opinion of the court in this case.

What is the result? If the miner is allowed to locate a mineralized zone as a lode some of the provisions of the acts of Congress, in letter and spirit are violated; and this is precisely what would occur in this case if this decision was affirmed.

We have a zone of limestone found by the Court 800 feet wide, at the Richmond. The Court finds, first, that that zone has been broken, fissured, and disintegrated—thus specially fitting it for the reception of the ore that we now find in it.

At the bottom of page 28 the Court finds:

"Throughout this altered zone of limestone, mineral is found in the numerous fissures, caverns, and cavities, and in the loose material of the rock in various forms."

Now, if it be admitted that a fissure filled with mineral matter containing ores is a lode or vein, then the court in this case has found in effect that there are numerous lodes or veins in that zone of limestone. And in the opinion of the Court I think it will be readily seen that that is precisely what the court intended to find: that there were numerous fissure-veins and numerous lodes in that zone of limestone.

By referring to the opinion, it will be found that the Court says:

"If the scientific definition of a lode as given by geologists could be accepted as the only proper one in this case, the theory of distinct veins existing in distinct fissures of the limestone would be not only plausible but reasonable."

The Court finds that there are numerous fissures in the limestone, and that those fissures have been filled with mineral matter containing ores. That is not finding in terms that these fissures filled with ore are lodes; but it is a finding in fact and effect that they are lodes or veins.

Now what results? If this construction of the court below is adopted, all the junior locators of separate and distinct veins or lodes in that zone of limestone lose their property, notwithstanding the fact that they had located veins or lodes that have always been recognized as such, and that were undoubtedly covered by the acts of Congress.

I cannot believe that Congress, in passing these acts, intended any such result. It is hardly necessary to call the attention of the court to the endless confusion that a construction of that character would create in our mining districts. It has already been shown that lodes usually occur in zones; frequently in single zones of rock. And it is a further fact that has been adverted to here already, that lodes almost universally occur in groups. Where you find one lode you are almost certain to find a number of lodes.

If this construction is correct, not even a patent to a separate lode in one of these zones secures the party holding the patent against the loss of his claim by some one who has an older location or an older patent on a lode in the zone in which the lodes are to be situated.

To illustrate we will suppose that the Eureka Company obtained a patent in 1872 to the Champion lode on the

Champion vein, and that the location was located in 1869, if you please. That the Richmond Company subsequently obtained a patent to the vein or lode found on the "At Last" ground.

The CHIEF-JUSTICE: Is there any vein or lode found on the At Last ground that could have been patented?

Mr. WREN: All I can say to that is this: the Eureka Company applied for a patent to a vein or lode on the At Last ground.

Mr. Justice BRADLEY. There is no cropping-out there?

Mr. WREN. I do not know whether there is, in fact, or not.

The CHIEF-JUSTICE. And you do not know whether there is any defined lode there?

Mr. WREN. No, sir; I do not.

Mr. Justice BRADLEY. I understood from Mr. Thornton that there was no cropping out on that "At Last."

Mr. WREN. My impression is that there is testimony that there is a cropping out in the At Last. But I was just simply illustrating my view of the results of this construction in alluding to the At Last at all, and simply putting it hypothetically. Suppose there is a lode in the Champion and one in the At Last, and that the Eureka Company owns one and gets a patent to it, and subsequently the Richmond Company owning the other, gets a patent to that. Each of them are separate veins or lodes.

Mr. Justice BRADLEY. And parallel?

Mr. WREN. Yes, sir; parallel to each other.

Mr. Justice BRADLEY. That often happens?

Mr. WREN. Yes, sir. Now, the Eureka Company comes in and says: "By virtue of a patent to the Champion lode, the Eureka Company have not only acquired title to this vein that runs through the Champion patented claim; but

the company has acquired title to this whole zone of limestone, 800 or 1,000 feet wide, and containing numerous veins or lodes, including the At Last vein or lode to which the Richmond Company has a patent.

Mr. Justice BRADLEY. That would be so if you had a distinct lode there, undoubtedly. In New Jersey at the great zinc mines there is a vein of zinc varying from four to forty feet in thickness and a mile long, and right along side of it—within 20 feet of it—is a vein of iron ore, both of them descending with the same dip and in the same strata of crystalline limestone. And then on the other side there is another line of Franklinite, so that there are three veins within 15 rods parallel with one another.

That often occurs, undoubtedly. The question is whether this foramtion is of that kind. I have seen nothing in the findings which shows that.

Mr. WREN. The application of the rule—the construction of the law, it seems to me—would lead to the results I have pointed out in other zones where there are numerous lodes.

Now, we will come back to the findings again. The court finds in this case that there are numerous lodes here. If I was permitted to go into the testimony in this case, I think I could show in a very short time what the true nature of this limestone zone is. But I am not permitted to do that. I am confined, as I understand it, to the findings of the court. The Court finds that there are numerous fissure-veins in this zone; that is the effect of the findings. "Throughout this altered zone of limestone, mineral is found in the numerous fissures." Now, we know that a fissure filled with mineral matter or ore is a lode or vein. No person will deny that. That comes within the definition given, not only in the books, but they are so considered by universal usage. Then, we have numerous veins

or lodes found to exist in the zone of limestone and so found by the court.

I say, upon the findings, if that whole zone can be held to be a lode, the Eureka Company owning one vein in that zone can take all of those veins by virtue of their location or their patent for that ore vein.

Mr. Justice FIELD. That word fissure means nothing but cracks. This mass of limestone had many cracks in it, which were afterwards filled up. That is the meaning of it; it cannot mean anything else.

Mr. WREN. If we are to go into those matters, I think I can show very clearly what the true meaning is.

Mr. Justice FIELD. I think that is the meaning as I have stated. I speak of a large body—a crushed and fis sured body—and there are cracks and holes in it that the water has made in which ore is deposited.

Mr. WREN. The testimony shows that these cracks or fissures—whatever you please to term them—extend for hundreds of feet. Possibly your Honor has forgotten what the testimony was in the case, and I did not desire to allude to it. I simply desire to discuss this case upon the findings. I am told I am confined to that. We wanted to discuss the case on the testimony, but were not permitted to do it. The true character of this zone could have been much better shown by discussing the testimony in this case than it possibly can be upon the findings. But I take the findings precisely as I find them. The fissures filled with ore have been found.

I believe that in the opinion of the court—and I do not know to what extent the opinion may be read for the purpose of illustrating or explaining any portion of the findings that may not be perfectly clear—I believe in the opinion of the court it is stated that after the fissuring of this rock, waters came in, charged with free carbonic acid, and

dissolved out along the line of these fissures, some portions of the limestone making the fissures very much more irregular in form than they were when first formed. Now that brings these ore-bodies precisely within the definition of what is called pipe-veins in England; and that is precisely what this Richmond vein is, extending from the point marked "Richmond Incline" down to the "Potts Chamber."

I hardly know what to say in reference to the comments made upon the findings by his Honor, Judge Field. I supposed that the findings were to be taken precisely as we found them.

Mr. Justice FIELD. If they mean anything else I cannot explain them away.

Mr. WREN. If we are not to take the findings just as we find them, I should ask, most certainly, permission to refer to the evidence.

The CHIEF JUSTICE. We take the findings exactly as they come to us. They have got to be construed by us, and by the language used by the judge in making the decision.

Mr. WREN. Then I take the findings precisely as they are, and I say that in my judgment there is no escape from the position that the court below has found, that there are a number of veins or lodes in this zone of limestone. Then if there are a number of veins or lodes in this zone of limestone, as found by the court, and the court still holds that the whole limestone zone may be located as a one lode, there is no escape from the position that by that construction many lodes may be located as one lode.

Let us see how that would operate under the acts of Congress? It is a matter of public history that for eighteen years the public mineral lands on the Pacific coast were occupied by all who chose to occupy them and dig out the

precious metals found there. It was the policy of the Government for a long period of time to keep those mines open to all comers and not to sell these lands. In 1866 Congress departed from that policy and passed the first act under which the mineral lands were opened to purchase by citizens of the United States, and all who had declared their intention to become such. By examining the first section of that act of 1866, it will be seen that all the mineral lands on the public domain were open to occupation and exploration to all citizens.

Section 2 of the act provided that parties might acquire title to veins or lodes of quartz or other rock in places containing certain metals, gold, silver, cinnabar and copper; but each locator was limited to one claim of 200 feet on any one vein; and when application was made to purchase the diagram and application was limited to one vein and no more—and sufficient surface ground for the convenient working of the same. But that surface ground could not include more than one vein, or if it did the title did not pass by the patent to more than one vein. What was the obvious intent of Congress in passing this act? It was to prevent monopoly in the location of the public mineral lands. There could have been no other object in placing this limitation in the act.

If this construction be the correct one under that act, a large number of veins—veins recognized universally as such—could have been located by simply locating the zone containing them. Is it not plain that the intent of Congress would be defeated by any such construction as that? Does it not overturn the law in letter and spirit to place any such construction as that upon it? And the same objection to this construction exists in reference to the later act—the act of 1872. Under that act the amount of ground that could be claimed was increased, and the number of lodes that could be claimed was increased. But, still, there

was a restriction showing that Congress intended still to prevent monopoly in the location of the public mineral lands.

The locator was restricted to 1,500 feet on the length of the lode, and was restricted to 600 feet in width of surface ground. Six hundred feet was the maximum of the width of a claim for surface ground, and that might be limited by the regulations of the miners to 25 feet upon each side of the center of the vein, or 50 feet in width. They were allowed 300 feet on each side of the center of the vein; that is, 600 feet wide at most. Now, we have a zone 800 feet in width, and so found by the court; 800 feet in width at the Richmond claim—as a matter of fact I think it is over a thousand feet, as shown by the map. What is the result if that entire zone can be considered a lode?

Mr. Justice BRADLEY. It might be 2,500 feet just as well.

Mr. WREN. Yes; or two or three miles just as well. As a matter of fact, and by way of illustration it is t stified in this case that there is a zone of limestone just south of this that is more than a mile in width, with boundaries of quartzite on one side and shale on the other.

Now, what is the result of this construction? A mineralized zone with defined boundaries may be located as a lode according to this construction. That is, this zone of limestone [indicating on the map] may be located, and is located, and held as a lode under this construction. That is contrary to the act of Congress of 1872, 800 feet of surface-ground is held. Because, if the Eureka Company owns that zone it owns the whole of it, surface and all. It is all a lode, according to the findings—the whole zone. If the Eureka own one inch of it, they own the whole of it, and they get by virtue of the location of two or three claims, each a couple of hundred feet in width, 800 feet of surface-ground, notwithstanding the act of Congress, which says they shall only have 300 feet on each side of the centre of the lode, or 600 feet in width in all.

What else follows? It may or not be the fact in this zone, but that matters not for the purposes of this argument.

It may be that there are veins or lodes—fissure veins and lodes running diagonally across that zone. I say there may be fissure veins running across that zone diagonally, and by this construction the Eureka Company gets every one of those veins by virtue of locations covering a portion of it.

Now, the dip of a lode is always at right angles with its strike. It cannot be otherwise. And that is an important definition to keep in mind. The dip of a lode is the angle at which it descends into the earth. In order to get that angle you must go down on the lode exactly at right angles to its strike. If you go either way from a right angle to its strike you do not get the angle at which it dips into the earth.

Mr. Justice BRADLEY. Supposing the outcropping is going up a hill and you follow up the hill; what is the course then?

Mr. WREN. Did I use the term "course"? I should have said "strike."

Mr. Justice BRADLEY. Would it be on the level?

Mr. WREN. Yes; the strike is always the horizontal direction of the vein. The course on the surface is not really the true course of the vein. Where a lode with a dip at an angle, say of 45 degrees, runs over inequalities on the earth's surface, as a matter of course it carries it out of its horizontal direction.

Mr. Justice BRADLEY. In other words, the surface course is not always the strike?

Mr. WREN. Yes; it is very seldom the strike. It could only be the strike where the croppings of a vein ran along a horizontal surface. Now, the dip is at right-angles with the strike always, and it cannot be otherwise. Here [indicating on the map] is the dip of the Richmond vein, and

here, then, [indicating on the map again] would be the strike of the vein.

The words strike and course are used indifferently, and I have fallen into the habit of using them myself. improperly. It will be seen that that being the strike of this vein, that the strike runs diagonally across the limestone. In fact, the court finds that fissures run in every direction through the limestone.

Now, the result of the construction given to these acts of Congress by the court below would be to enable, and has been, in fact, to enable the Eureka Company to claim a large number of lodes by claiming the zone as one lode; and the result is not confined to this case at all, and the construction, it seems to me, ought not to be narrowed down simply to the decision in this case. It seems to me that it should go beyond this case; that the Court should consider the results of such a construction in other zones—in the other mining districts of the country.

The policy of the Government being against a monopoly in the location of the mineral lands, and the plain letter of the law being against the location of more than 600 feet in width in one claim, no construction should be adopted that would enlarge that right, or that is opposed to the well-settled policy of the Government. In fact, I suppose the intent of Congress, if there is any ambiguity about the law at all, must be considered; and in view of the results of this construction, it seems to me that Congress could not have intended to allow the location of many veins in one claim by construing the law to mean that a mineralized zone is a lode or vein.

The court finds that this entire zone is a lode, and the whole case rests, in my judgment, upon that question. If that zone is a lode in the meaning in which those terms are used in the acts of Congress, then the case, perhaps, should be affirmed. But if that zone is not a lode in the sense in

which those terms are used in the acts of Congress, then there is nothing found outside of that upon which this judgment can rest.

The extent of the lodes found in that zone is not found. Their course is not found; their dip is not found. It is not found that there is any vein or lode in the Champion, or in any of these other claims of the Eureka Company, that on its dip or otherwise includes any portion of the ground in dispute.

Upon what, then, will the court affirm this judgment? It seem to me not upon anything that is found in this case.

But I maintain that, upon the findings, it is clear that this is not a lode in any possible sense. Further (and that is all that is found), it is clear that it is not a lode in the sense in which those terms are understood by miners, or those residing in the mining regions of the country who are acquainted or familiar with mining. The court did not find that this zone is a lode within the meaning of those terms as used in the acts of Congress, but that it is a lode within the meaning of those terms as used by miners. That it is a lode within the meaning of these terms, and understood by miners, or as used by miners and understood by those residing in the mining regions of the country who are familiar with mining. That is all that is found.

Confining myself strictly to the findings, I propose to show that this zone is not a lode or ledge within the meaning of those terms as used by miners.

The court found all of the facts tending to explain this case very fully, and, in general, very fairly. I think there are some inaccuracies, but the findings are generally correct. The findings are not confined simply to a finding that this is a lode, but the whole zone that is called a lode is described, and the processes by which it is claimed it became a lode are described.

The mining laws of the Eureka district, in which it is situated, are made a part of the findings as well as the patents that were issued to the respective parties in this case; and some of the notices of location and the maps are made part of the findings. And the maps throw a vast deal of light upon the questions involved here.

In opening I endeavored to show that the zone of limestone that we find here now was originally stratified limestone simply, and not a lode; and that the underlying quartzite and overlying shale were not the walls of a lode. They simply occupied a stratigraphical position in reference to the zone of limestone.

By what process did this zone become a lode?

The Court says that by some dynamic force it was crushed, fissured, broken up and disintegrated, and thereby specially fitted for the reception of the ore.

Of course up to this point of time it was not a lode. I presume that the court intended to say, too, in that connection, that as a matter of fact by some force this zone of limestone and the rocks underlying and overlying it, were tilted up and raised thousands of feet above the level of the ocean. Let us see what value these facts have in determining whether this zone is a lode or not. When it was tilted up the edges of the zone appeared at the surface and it had a "strike" and "dip," and so has a lode. But it was not a lode; it lacked ore, at least. When it was crushed and fissured it did not become a lode. The mere crushing and fissuring of a rock does not transform it into a lode in the sense in which those terms are used in the acts of Congress, or in any other sense. It was still nothing but barren limestone. It is said that it was metamorphosed. That is the commonest occurrence found in rocks. Metamorphism really has nothing to do with the formation of a lode. The whole country is full of metamorphic rocks con-

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taining no metal or ore of any kind. Cavities and caves were also found in this zone of limestone. The Court says in its opinion, that they were formed by waters from the surface percolating through the fissures in the limestone.

All these facts grouped are of no consequence in determining whether this is a lode or not. Singly, they are of no consequence in determining whether it is a lode or not. They are simple facts that may be found in connection with any zone of rock that has been subjected to the same dynamic forces that this zone of rock must have been subjected to in order to reduce it to this condition. It could only become a lode by the introduction of ore into the zone, if it could become a lode in that way at all.

The Court say that the ore was introduced "in the numerous fissures, caverns and cavities, and in the loose material of the rock in various forms, appearing sometimes in a series or succession of ore-bodies more or less closely connected, sometimes in apparently isolated chambers, and in others in small bodies, vuggs, and in scattered grains, although barren limestone sometimes intervenes," &c., that is, the zone became a great lode by the formation of lodes in the zone.

I have said that the maps would aid us very much in understanding precisely what was found in this zone. The maps are a part of the findings, and by an examination of the maps the court can see the extent of the barren limestone that is found in this zone, and the extent and number of the ore-bodies that are found, and the result of such an examination will show that the intervening spaces of limestone are hundreds of feet in extent between those ore-bodies.

Mr. Justice FIELD. Have there been any explorations since this trial?

Mr. WREN. Yes, sir.

Mr. Justice FIELD. And a good many new spaces of ore have been found, have there not?

Mr. WREN. I think not in the barren portions that appear on the map; if there have been, they are without my knowledge. There have been explorations made, starting here [indicating on the map] and running right along under the Richmond vein off in that direction [indicating] running northwest right under that lode. It seems to show a separate lode or vein running right under that lode that the Richmond has worked down so far upon.

Now, admitting that you can locate a zone as a vein or lode that contains barren spaces in it, what limit is there to the barren spaces? Is any zone to be called a lode, if it happens to contain a few ore-bodies? Or must the ore-bodies be more or less closely connected, in order to bring it within the usage that it is claimed miners have established? It certainly seems to me that it ought to appear at least pretty thoroughly impregnated with ore to entitle it, under any construction, to be called a lode. I do not believe myself that a zone, certainly not one of this extent, should ever be called a lode, no matter how thoroughly impregnated with the metal. But if one, under any circumstances, can be called a lode, it seems to me it must contain a great deal more ore than the findings in this case show that this zone contains.

And, now, a word in regard to the usage of miners, and what miners call this zone.

Under the law of 1866, locations of veins and lodes were to be made under rules and regulations to be established by the miners themselves; or, in other words, under the local regulations of the miners themselves. The laws, of course, if repugnant or inconsistent with those of the United States, had no force; but in all respects they had as much force and effect as the statute law itself if not inconsistent.

Before the passage of that act, the miners of the Eureka district, in 1864, made mining laws. In those laws they

provided for the location of "ledges" and not for veins or lodes at all; and, by the way, that will throw some light upon what the miners consider a ledge, particularly in its application to this zone.

In 1869, or after the passage of the law of 1866, they again met and made amendments to those laws. The original laws and amendments are made part of the findings. They adopted a preamble at their second meeting.

They say in their preamble—

"Whereas explorations have made it evident that the mineral in Eureka district is found more frequently in the form of *deposits* than in *fissure veins or ledges*, and the laws of the district do not provide for the location of such *deposits*; and

"Whereas the deficiency in the law may give rise to expensive litigation, as it is the case in White Pine, a district of similar character, the miners of Eureka district have adopted the following amendments to the old laws of the district:

"SECTION 1. Claims of mineral grounds may be located as deposits.

"SEC. 2. A deposit-claim shall consist of a piece of ground 100 feet square, and such a piece of ground shall be designated as 'a square.'"

Now for the application by the miners themselves of those laws to this very district and zone in question. On p. 62 of the record is the notice of location of the Richmond claim:

"We, the undersigned, have this 20th day of September, 1869, located and claim seven locations of 100 feet square. We also claim seven locations of 200 feet each on this the Richmond ledge—this ground more particularly described as located and situated adjoining the Champion claim on the south, and running north from said Champion, and adjoining the claim known as the Tip Top ledge, and located by Davis and Mackenson," &c.

At the bottom of the page is the Tip Top location:

"We, the undersigned, claim 600 feet on this ledge, running on the course of the lead from this monument and notice with all dips, spurs, and angles, and 100 feet on each side of the ledge for mining purposes."

The "Lookout" claim was located as a square, or deposit location. Now, it is evident from these notices of location and the action subsequently taken by the owners of these claims under them, that they did not consider this zone a lode or ledge in any sense, and certainly not in the sense in which it is understood by miners; that neither the miners nor those residing in that district used the terms in that sense.

Under the law as first passed, the locator of a ledge or lode was entitled to 100 feet on each side of his lode or ledge. Now, miners are not less selfish than other people, and most assuredly would not have been slow to take advantage of any privilege given them by the law to make a large claim. And yet none of them, it appears, thought of claiming this entire zone and 100 feet on each side of it as a lode or ledge. And the idea never seems to have occurred to the parties who subsequently became the owners of those claims, that under the locations originally made by their grantors and predecessors in interest and under the mining laws, they had a right to take this whole zone as a lode or ledge, as they would have had if the construction given to this law by the court below be correct.

The patents are found as a part of the findings to the Margaret, At Last, Champion, Buckeye, Lookout, Richmond, Tip Top, Nuget, Lupita, and Sentinel. I suppose it is fair to assume that the land officers did their duty in granting these patents and examining the papers upon which the applications were made for the patents. The patents are issued to separate ledges in each case. The patents re-

cite—at least that is the effect of the recitals of the Buckeye, Mammoth, Sentinel, Lupita, Margaret, At Last, Champion, Nuget, Tip Top, Richmond, and Lookout patents—that they are all separate veins or lodes; and they probably, all of them, have some croppings in them, although I am not very clear as to what the testimony was on that point.

The CHIEF JUSTICE. One moment in regard to that point. Does it appear in the findings, anywhere, that there are any bodies of ore found in that region, except they rest on the quartzite?

Mr. WREN. I do not know that it is found that any rest on the quartzite. It is between the quartzite and the shale.

The CHIEF JUSTICE. I understood the statement to be made—I do not know whether from the findings or evidence, or in the argument of the case, that all these bodies of ore that are found, do rest on the quartzite.

Mr. WREN. O, no, sir. There is not only no such finding as that, but as a matter of fact they do not. I believe, perhaps, they touch the quartzite in one or two, or perhaps three or four places.

The CHIEF JUSTICE. Does not this Pott's Chamber rest on the quartzite?

Mr. WREN. The testimony, I believe, is contradictory on that point.

The CHIEF JUSTICE: Is it not in the finding?

Mr. WREN. No sir; it is not in the finding.

The CHIEF JUSTICE: I got my idea from the course of the argument; probably.

Mr. WREN. Well, in the discussion of the case, perhaps the testimony has been alluded to on this point, and your Honor's mind has been confused in reference to it. But there is no such finding as that; and as a matter of fact, these bodies of ore do not rest on the quartzite; they are out in the limestone. Why your Honor will see that from

the map. Here [indicating on the map] is the quartzite—the contact between the quartzite and the limestone; and here [indicating on the map] is the Richmond ore-body, some 120 feet from the quartzite.

Mr. JUSTICE FIELD. One of the counsel stated that at the end where this lode comes together pretty closely, there the ore was resting on the quartzite.

Mr. WREN. O, at the Southern end of the zone! Mr. Thornton did state something about that, and it is found resting on the quartzite where this zone is very narrow—at the Southern end of the zone. The zone, according to the findings, opens out something like a V. It is not to exceed an inch at the Southern end, while at the Northern end it is 800 feet in width, and at the Southern end, if there is any ore at all, it must rest on the quartzite—it must lie immediately between the shale and the quartzite.

It is not very clear, either from the findings or the maps, exactly what the character of these ore bodies are. I suppose that the court did not deem it essential to find either the character or the extent of these ore-bodies. The court had already determined to find that the whole zone was a lode, and finding that, and taking the view of the law, generally, that the court did, it was unnecessary to find any thing further—to find anything in reference to the extent, character, or name, that should be given to these ore-bodies. The nearest the court approached to describing what the ore-bodies were, is in the finding in which the court say, in effect, it seems to me, that there are a number of veins or lodes in that zone, and that it don't make any difference whether you call them pipe veins, or fissure veins, or pipes of ore—they are only part of one greater whole, and are, therefore taken under the location of the Champion, and the At Last, and the Margaret, without reference to their name, or the fact that there are a number of veins or lodes in the zone. And I would like to call the atten-

tion of the court particularly to that portion of the opinion, because I think it throws a great deal of light upon this case. However, I believe I have done so in the brief, so that it is not necessary for me to speak of it at this time.

Then, to repeat (and I only do it because of the importance of this case, millions of dollars are involved, to say nothing of the results of the construction of the mining laws by the court below). The court finds, I think clearly, that there are fissure veins, or lodes in that zone. That the court intended to so find, I gather from that portion of the opinion in which the Court says that if the scientific definition was to be accepted as the only one, that this theory of the defendant, the Richmond Company would not only be reasonable but plausible;" and though one word has, by some means, crept in there, I really understand the following sentence to be to this effect, "for those conditions are found in the zone"

Mr. Justice FIELD. What is that word, Mr. Wren?

Mr. WREN. It is the word "not." It seems to me that there is no sense to it.

Mr. Justice FIELD. On what page is it?

Mr. WREN. I will find it for you in a moment. It is on page 19. The language is: "If the scientific definition of a lode, as given by geologists, could be accepted as the only proper one in this case, the theory of distinct veins existing in distinct fissures of the limestone would [not] only be plausible but reasonable."

Now, from that I draw the inference that the Court intended to find, in finding, that these fissures had been filled with ore; that there were distinct veins in this zone of limestone. Then follows this sentence:

"For that definition is [*not*] met by the conditions in which the Eureka mineralized zone appears."

It seems to me that the word "*not*" in there, considering what precedes it, is an error.

Mr. Justice FIELD. O, yes; I think that is so; I think the word "*not*" should not be there. I think you are correct. I think that was a mistake.

Mr WREN. In the opinion of the court (and I think it is proper to discuss the reasons given by the Court for finding that this zone is a lode), there is a sentence or two used that I do not exactly comprehend. It is in effect this, that this zone is the result of the same forces, that is the zone and everything connected with this zone is the result of the same forces created at the same time and coming from the same sources, etc. If that is what the court really intended to say, it seems to me that the findings do not bear out those conclusions.

The court finds that it is a sedimentary deposit in effect. Now, then, if it is a sedimentary deposit, it must have been laid down quietly under the bed of the ocean. Subsequently, from the position it then occupied, we know that it must have been tilted up, and by some great dynamic force it was subsequently crushed and fissured, and afterwards water entered the fissures and dissolved out portions of the limestone and carried it off, creating cavities in the zone; and afterwards the ore came up from great depths below, as expressed in the opinion of the Court, filling these fissure and cavities with the ore.

Certainly, this was all the result of natural forces, but they were different kinds of natural forces, and they must have occurred at different periods of time; and the probabilities are that the periods of time were not only different, but that long periods of time transpired between the laying down of the limestone under the bed of the ocean and its tilting up, crushing, and fissuring, that prepared it for the reception of the ore; and then the ore came up from a different source. The limestone was derived from the waters under which it was laid down. The ores came up from great depths below in solution—the opinion says.

Mr. Justice FIELD. I said according to the geologists; I did not pretend to state that of my own knowledge.

Mr. WREN. Well, I suppose usually that those are matters that are so well established that they could hardly be questioned. They were deposited, at all events, after these processes of depositions, upheaval, fissuring, etc., had taken place. I submit that all this was produced by different natural forces, and at different periods of time. If the metal had been laid down at the same time that the rock was laid down it would have been distributed, to some extent, equally through the rock, and not in the forms in which we find it at the present time. But I do not understand it as being claimed at all that the metal was deposited in the rock at the time that the rock itself was formed.

One word in relation to the compromise line. It seems plain to me from the language used in the agreement between the Eureka Company and the Richmond Company, after the litigation of 1873, that that compromise line was confined by the express terms of the agreement to that portion of this zone that lies between the point "X" and the point "R."

Mr. Justice FIELD. Mr. Thornton stated that the litigation upon which that agreement was made, and he asserted that the contention was, that this was a lode, and it was upon that basis that the settlement was made. Is that right?

Mr. WREN. I do not know whether Mr. Thornton stated that or not. If he did he certainly is as far out of the way as it is possible to get. What the contention really was, was this, if I may be allowed to explain. The Richmond Company claimed that the Richmond lode was a pipe vein, and that the company was entitled to follow it upon its dip under the Lookout claim, the top or apex of the vein being within the Richmond claim. That under the law the Richmond Company was entitled to follow that down on its

dip. The Eureka Company contended that there was no lode here [indicating on the map], and that the bodies of ore found in this zone were nothing but deposits of ore, and were to be treated as such, under the mining laws, and that being deposits of ore, the Eureka Company was entitled, under its patent to the Lookout, to all that was found within the exterior limits of the Lookout claim, extended downward vertically.

Mr. Justice FIELD. Did you not have the testimony of Mr. King there to show that there was a lode?

Mr. WREN. Yes, sir; to show there was a pipe-vein, or lode in the Richmond claim.

Mr. Justice FIELD. His testimony is referred to as being given in your case to show that there was a lode.

Mr. WREN. I do not know whether your Honor understands precisely what a pipe-vein is or not.

Mr. Justice FIELD. Yes, I do.

Mr. WREN. That was precisely what we contended; that that was a pipe-vein or lode. The other parties contended for what I say they contended for. We showed that the limits of that vein, so far as the exploration went, was very short. The ore-body was not extensive at all. That was the sole point of contention in that case. This is carrying me out of my course, but I may as well speak of it now as at any other time.

The CHIEF JUSTICE. You will have to confine yourself very closely to that point, because your time is limited.

Mr. WREN. As a matter of fact, according to our view of this case, that lode is not touched anywhere by that compromise line, (so called,) and there is no lode touched anywhere by that compromise line that extends down on its dip or otherwise, and includes this ground in dispute. That is what we contended for, and that is what we attempted to show by the evidence in this case; and if I had been permitted and allowed to discuss the evidence, I think I could

have shown very conclusively that that is what we contended for in this case. That was exactly the contention we made at that time, and we attempted to prove it, and I think did prove it, and we say now that there is no lode the top or apex of which is in any of the claims of the Eureka Company that on its dip or otherwise includes the ground in dispute, and that that compromise line does not cut nor include any portion of that Potts Chamber. I am sorry that my time has been so much taken up by discussing matters outside of the case.

The Potts Chamber itself is situated hundreds of feet away from the northeastern terminus of the compromise line—hundreds of feet away from it.

Mr. Justice MILLER. On what ground do you contend that the compromise line extends only to that point there; that is the question?

Mr. WREN. I was just about to state the ground. I contend that it extends up to that point marked X [indicating on the map], because by the language of the agreement itself it only extends up to that point [indicating on the map].

Mr. Justice MILLER. Read the language, and let us see what it is.

Mr. WREN. The agreement first recites the differences existing between these two companies, and then it goes on to state: "Now, therefore, this agreement witnesseth that the party of the first part for and in consideration of the sum of $85,000, gold coin of the United States, to be paid by said party of the second part at the times and in the manner hereinafter set forth, and the further covenants and agreements and conditions hereinafter contained to be kept, performed, and observed by and on the part of the said party of the second part have agreed and do hereby agree to convey to the said party of the second part, its successors and assigns, with warranty against their own acts, all that certain lot, piece or parcel of land or mining ground situate

in the Eureka mining district, County of Eureka, State of Nevada, and known as the Lookout ground or claim; and also all the mining ground and claim lying beyond the northwesterly side of a certain line commencing at the northeasterly corner of the Margaret mining ground or claim, which corner is marked X on the map or plan hereto annexed and made part of this agreement; running thence in a southwesterly direction along the edge of said Margaret ground, the At Last ground, and the Champion ground, to a point marked W on said map; thence southerly along the edge of said Champion ground to the northeasterly corner of the Nuget ground; thence in a southwesterly direction along the edge of said Nuget ground to the northwesterly corner thereof, at the point marked R on said map or plan."

It runs not in a northeasterly direction, but in a southwesterly direction; that is not the only language showing that that compromise line was not to extend beyond that point. That compromise line was to be continued—and this is the language that is used in reference to that:

"It being the object and intention of the said parties hereto to confine the workings of the said party of the second part to the northwesterly side of the said line, *continued downward* to the *center* of the *earth*—which line is hereby agreed upon as the permanent boundary-line between the claims of the said parties."

By the very terms of the agreement, with the idea of a further continuance of that line in the minds of the parties when they made the agreement, it was to be continued, not in a northeasterly nor in a southwesterly direction, but down to the center of the earth.

That line continued to the center of the earth from each end would cut none of the ground in dispute. If your Honors will examine the conveyances that were made under that compromise-agreement, you will find that, by the terms of those conveyances, the ground conveyed is care-

fully confined to the ground lying to the southeast and northwest of that line. None of the lodes are conveyed with their dips, spurs, and angles, as is usual, but the conveyance is simply a grant of all the dips, spurs, and angles "on, in, or under" the ground lying to the southeast or northwest of that line. Take this point X [indicating on the map] and draw a line to the northwest of that point, and it does not touch the Potts Chamber.

Mr. Justice FIELD. The agreement says: "And to all ores, precious metals, veins, lodes, ledges, deposits, dips, spurs, or angles," and so on. Then, the twenty-first finding is, "that the dividing line between the parties mentioned in the annexed agreement marked 'X,' and mentioned in their respective deeds, extended downwards in a direct line along the dip of the lode, places the mining ground in dispute on the northeasterly side of the line, and the deed of the defendant to the plaintiff conveyed all the mining ground lying on that side," etc.

Mr. WREN. Your Honor, that, it seems to me, is hardly the finding of a fact; it simply construes an agreement that is found as a fact. This agreement and this conveyance are found as facts in the findings of the Court, or, at least, are attached to the findings and made part of them. In the first place, if I am correct, there is no lode to extend that line on.

The CHIEF JUSTICE. If there is no lode there is no doubt about the correctness of your conjecture. If there is a lode, then the question is whether your construction is the one rather than the construction of the Court.

Mr. WREN. My contention is that there is no lode. I say the compromise line does not touch the Richmond lode, unless you extend it. That will be seen by the map. It is not found, at all events, that it would touch it anywhere. The only lode that is found in the findings is this zone of limestone. Now, if that zone of lime-

stone is not a lode, then I say there is nothing found in the way of a lode for that compromise line to follow. That is my position. The finding is that this line is to be extended downward on the dip of the lode, but not down vertically. It is to be extended along the dip of the lode. If you extend that line on the dip of any lode that dips off to the northeast, you are not extending it or continuing it to the center of the earth. No extension of that line [indicating on the map] except perpendicularly, would ever reach the center of the earth.

The CHIEF JUSTICE. Then your claim would be, according to the full construction of this instrument, if there was, in point of fact, a lode extending from the Champion location under the earth—a well defined lode—that the compromise line would confine the Eureka Co. to this side of the line, below the point marked "X."

Mr. WREN. Yes, sir.

The CHIEF JUSTICE: And that if any of that lode extended that side of the line, you could follow it where it went?

Mr. WREN. Yes, sir.

The CHIEF JUSTICE. That is your construction?

Mr. WREN. Yes, sir; that is my construction, precisely.

The CHIEF JUSTICE: The question then is, first, whether there is a lode, and second, whether your construction of it ir right?

Mr. WREN. If it is found there is no lode, then there is no lode for the compromise line to follow. In regard to the question whether there is any lode or not, the testimony in the case is very contradictory.

The CHIEF JUSTICE. And the finding of the Court on that point is what we are to decide?

Mr. WREN. Yes, sir.

The CHIEF JUSTICE. I must call your attention to the me. The time allowed for the argument of the case has xpired.

Mr. WREN. It was agreed before the commencement of the arguments, that they should be taken down by a short-hand reporter, and the parties would have them printed, and hand them to the Court to consider, or not, as they choose.

The CHIEF JUSTICE. You can do that and hand them in to the clerk.

